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mycetes and Schizophyceæ.' Mr. Lloyd remarked that the work of Strasburger (1884), and later of Lister, gives evidence that the nucleus of the Myxomycetes is a definite organ possessed of a nuclear membrane and containing chromatin. During cell-division the chromatin is segregated into rounded masses lying in the nuclear plate. A spindle is formed. After the formation of a fine nuclear membrane the spindle fibres gradually disappear. The small number of these parallel fibres and absence of a cell-plate led Strasburger to compare the nucleus to the animal rather than the plant type. Precisely similar conditions are, however, found in some plant cells.

The presence of a nucleus in the Schizophyta has been a point of controversy. Bütschli asserts the nuclear character of the central body, and regards the red granules as chromatin. A. Fischer denies the accuracy of the former's conclusions, the question remaining an open one. When our knowledge is complete it is highly probable that the nucleus will be found to be of the distributed type, of a type, therefore, comparable to that of the simpler protozoa. In any case the nucleus of the lowly plants is much more primitive than that of the Myxomycetes. We are led, therefore, to regard these curious, much-debated forms, the Myxomycetes, as either plants of a higher type than the Schizophyta, which have degenerated, or as animals related probably to the sporozoa. For the former view there is now little evidence.

The Secretary addressed the Club briefly regarding the discarded species *Aster gracilentus*, T. & G., and exhibited its type specimen, which formed a sheet of the herbarium of M. A. Curtis, now at Princeton, and was exhibited through the courtesy of Professor George Macloskie, of that University.

Mr. Howe exhibited a number of examples of *Wolffia*, discovered floating in Van Cortlandt Lake, constituting the third recorded collection within New York State of this minutest of flowering plants.

Dr. Rusby exhibited a *Paulownia* blossom in which half an anther had grown on the outside of the corolla. Dr. Britton reported two interesting additions to the collections of the New York Botanic Garden: 1st, a valuable collec-

tion of photographs illustrating the cultivation of the poppy in Asia Minor; and 2d, a gift to the Garden from Mr. Peter Barr, the English horticulturist, of a collection of *Narcissus* and *Pæonia* for planting in the Botanic Garden. The claim of free entry as museum material was at first refused by the New York custom house; but, after five different appeals, the final decision was that the material was proper to an outdoor museum, and free entry was granted.

EDWARD S. BURGESS,
Secretary.

DISCUSSION AND CORRESPONDENCE.

THE PUMAS OF THE WESTERN UNITED STATES.

A RECENT examination of Rafinesque's description of *Felis Oregonensis* (*Atlantic Journal*, Vol. 1, No. 2, page 62, summer of 1832) brings up an interesting question as to the relationship of this name and those recently proposed by Dr. C. Hart Merriam for the Pumas of our Western States.

Rafinesque in the above article describes two species. The second of these is *Felis macroura*, based on an account in Leraie's Travels, of an animal resembling the Conguar of the Alleghanies, but not larger than a cat, 'with tail as long as the body, which is from one to two feet long only.' The source of this information is unreliable and the probability is that no such animal existed.

The first species described is, however, of more importance. Rafinesque's description is as follows:

"1. Var. *Oregonensis*. Dark brown, nearly black on the back, belly white; body six feet long, three high, tail two or three feet long. A large and ferocious animal of the mountains. Is it not a peculiar species? *Felix* [sic] *oregonensis*."

In the introductory paragraph of the article he says: "In addition to the article on our Couguars, page 19, I have to state that several other varieties of tygers are found in the western wilds of the Oregon mountains, or east and west of them, which deserve to be noticed. I find in my notes that two other varieties of Couguar have been seen there east of the mountains."

The *Felis macroura*, he states distinctly,

dwells on the plains east of the Oregon mountains, but no definite locality is given under the description of *F. oregonensis*.

The indefiniteness of the opening paragraph where the forms are stated to occur, both east and west of the mountains, makes this name apparently applicable to either the Puma of the Rocky Mountains or the Northwest coast region. However, the fact that the other species (*macroura*) is said to occur *east* of the mountains, gives this form the benefit of whatever the use of the word 'west' was intended to imply, and, furthermore, the dark color which is distinctly pointed out would seem to fix the name *oregonensis* on the Northwest coast form.*

Dr. Merriam, in Proceedings of the Biological Society of Washington, July 15, 1897, p. 219-220, proposed the name *Felis hipolestes* for the Puma of the Rocky Mountains, and *Felis hipolestes olympus* for the Northwest coast form, apparently overlooking the paper by Rafinesque.

In view of the evidence here set forth, it seems that Rafinesque's name must be recognized, and I would, therefore, suggest that the proper names for the two animals should be

Felis oregonensis (Raf.) Northwest Coast Puma.

Felis oregonensis hipolestes (Merr.) Rocky Mountain Puma.

WITMER STONE.

ACADEMY OF NATURAL SCIENCES,
PHILADELPHIA, December 9, 1898.

THE SCHMIDT-DICKERT MOON MODEL.

THE installation of the Schmidt-Dickert relief model of the moon in a scientific institution deserves, perhaps, a passing notice. This seems the more desirable since in so generally accurate a work as 'Webb's Celestial Objects for Common Telescopes,' edition of 1896, the statement is made that this model is in Bonn. It has not been in Bonn for fully twenty years, and for most of that time has been in this country.

While occasionally exhibitions have been made of the model during this time they have been of short duration and in different cities, so that, for this time at least, it has been practically lost to the world. Through the generosity of

*'Oregon' of this date, of course, included the present State of Washington and much of British Columbia.

Mr. Lewis Reese, a citizen of Chicago, the model has now come into the possession of the Field Columbian Museum and has lately been installed in this institution. It is now, therefore, freely available for purposes of study and instruction. Since it has been so long lost from view some facts regarding the model may be of interest. It was constructed in 1854 by Th. Dickert, Curator of the National History Museum in Bonn, under the direction and with the cooperation of Dr. J. F. Julius Schmidt. The name of the latter is of itself sufficient guarantee of the accuracy and perfection of detail exhibited by the model, especially as Dr. Schmidt states that he tested with his own hand the accuracy of nearly all the measurements. So much labor was necessary in order to insure accuracy in the details that the work of modelling and construction occupied five years. The model is in the form of a hemisphere, 18 Paris feet (19.2 English feet), in diameter. Its horizontal scale bears the ratio to that of the moon of 1:600,000, the vertical 1:200,000. It is made up of 116 sections, each 15 degrees in length by 15 degrees in breadth. The consecutively joined edges of these sections serve to mark upon the surface of the model, parallels and meridians. The different colors exhibited by different parts of the moon are also depicted upon the model, the prevailing color being a dull yellow, broken by gray-green where the 'seas' occur, and by representations in lighter yellow of the bright streaks which radiate so prominently from some of the craters. The orientation which has been adopted for the model is the normal one of the moon, not inverted as it is when seen through an astronomical telescope. The north pole of the hemisphere is therefore above, the south pole below; east is to the left, and west to the right. The surface details of relief shown upon the model are based upon the charts of Beer and Madler, but many new localities were added from the observations of Dr. Schmidt himself. In all over 20,000 distinct localities are represented, modelled proportionally according to the relief which they present upon the moon. One may, therefore, study the relief with the greatest confidence that the actual topography of the moon is represented, and is spared the confusion arising